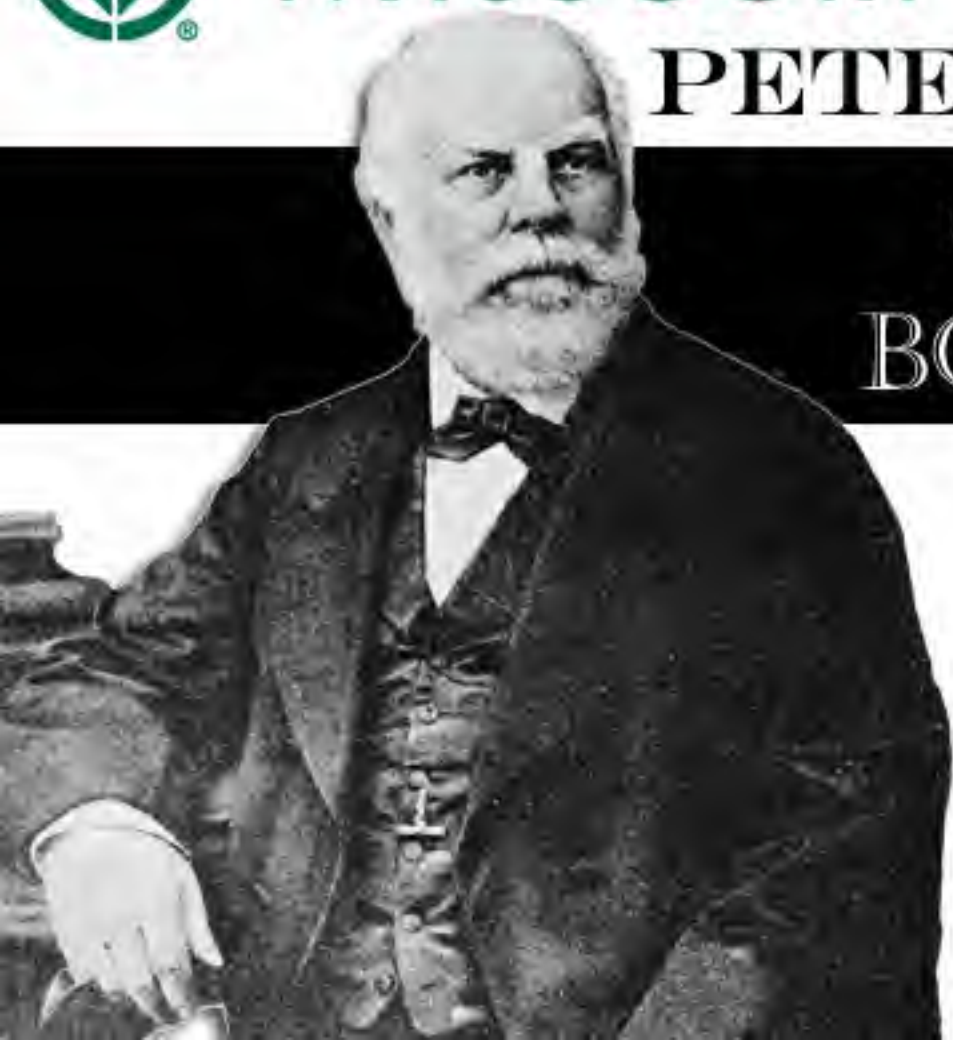


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BOTANICAL NOTEBOOKS



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Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

Abies occidentalis subulpa
Rocky mountains

- Brandege, SW corner of Colorado, Western Slope
 Parry Cedar City, Utah
~~John H. George~~ ^{Hall & Kuhn} higher Mts
 Engelm, Parry, Colorado
 H Engelm. Medicine Bow Mts 1856
 Parry Yellowstone 1873
 Allen Wyoming 1873
 Watson Wasatch mountains
 Hayden Laramie Mts 1859
 Swallow, Montana 1867
 Fremont 1845. 202 & 211
 Lyall, Galton Range of Rocky Mts Aug 6,
 { 49° lat. Sources of the Columbia
 Lyall Rocky Mts 146. Florak (with same ?) H. Kew
Oregon
 C Hall Mount Hood, fructiferous spec.
 Lyall Columbia Valley 1860 H. Kew
~~Galton Range (A. bifolia)~~
 Douglas Cl. in River. (A. lasiocarpa)
 Jeffery Shasta Mts (49° lat.)
 Lyall East side of Cascade Mts up to 9000' high
 Wilkes Exp. "A. lasiocarpa" Torrey Aug 1860

^{202 &} Fremont 211 & Watson Wasatch have leaves
 like concolor but with ducts like ovoid



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3003 LOCUST STREET.

G. F. ENGELMANN, M.D.,

12951

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R. C. HARRISON,
508 Leffingwell Avenue,
Druggist & Apothecary



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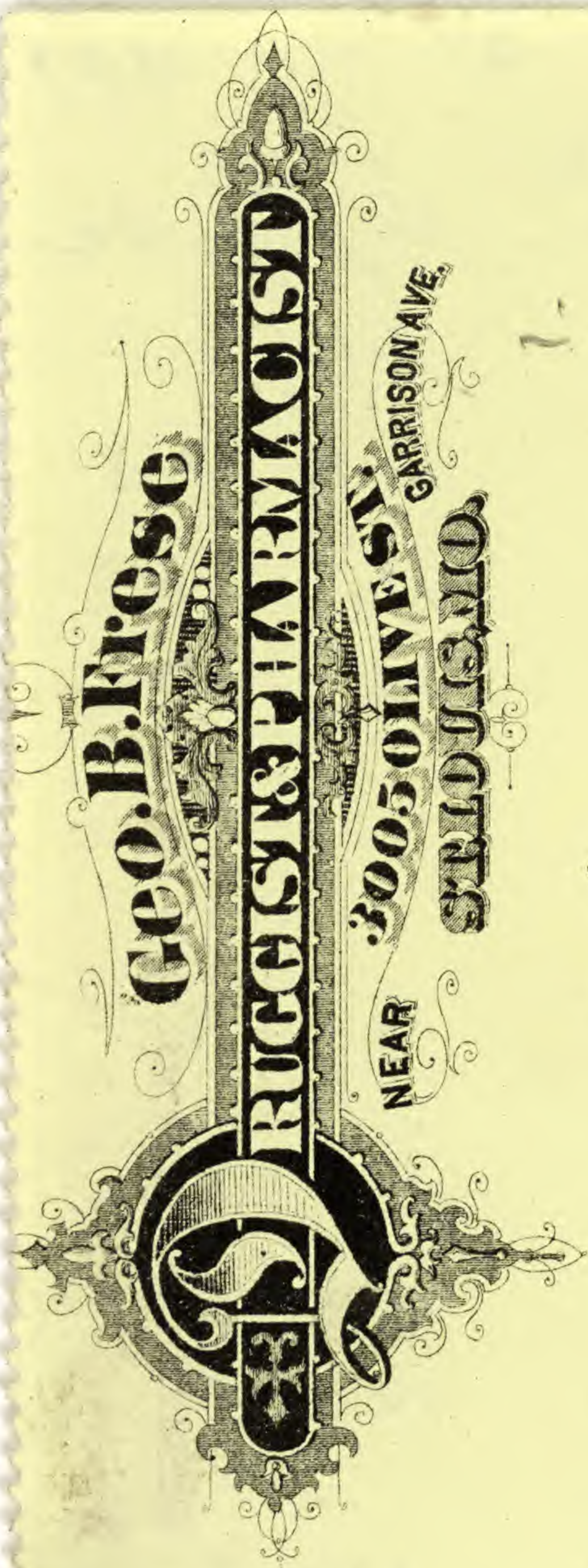
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over
Cone from "Eastern Cascades"
- Coll Agric. Dep. Turkey -
 $4\frac{3}{4}$ inches long
 $1\frac{3}{4}$ diam.

Proportion of Scale, wide $(16-20)$ mm 18 mm
high $(13-16)$ mm 15 mm
 $12:15 = 6 \times 5$

veed $(5-8)$ 7 mm long
wing $(9-14)$ 12 mm long
 $(7-9)$ 8 wide $= \frac{3}{2}$

DR. GEO. ENGELMANN,

OFFICE - 201 S 5th St. RESIDENCE 3003 Locust St.



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one

Abies subalpina

21 Dec 1877

millimeters

Scales

seeds

wing

wide high

long

long wide

Siler, Wasatch

14-16

11-15

5

8-10

6-7

unripe
Johns. With 74 good

19-21

15-16

7

13-14

7-8

G. E. Conner 1874

18

18

8

12

8

18-20

15-17

7

10

7

Hall, Mt Hood
1873

Lyall, eastern Cascades
unripe 49° lat

16

13

6

9

Shawlowe Mountain

17

13

7

11

8

Parry Empire Col
1872

18

15

7

12

8

— South Park 1862

18

12

7

10

9

18 x 15

7

12 x 8

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Accidental Rocky Mtn
lines of stomata in each band, very irregular

4-5 Swallow, Montana

4-5 Parry, Colorado

3-5 Engelm Colorado

3-4 Parry Yellowstone

4 Galton Range of Rocky Mtn, Lyall 4-9 in the original
lines
Stomata 3-5 in the
Rocky Mountain
tree

4-5 H. Engelm Bow Mtn

4-5 Hayden Laraine Mtn 1857

3-6 Allan Wyoming

4 Hall + Harbours Colorado

4-5 Johnson, Utah

4-5 Bennett 211 & 202

4-5 Wilson Utah very irregular



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Alex. Leitch,
APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.

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Oct 13 1876

"*Abies hudsoniana*"

Agricultural Grounds, Boston

leaves broad and short, all notched
with 4-6 rows of stomata in the middle of
upper side, 8-10 series in each band
below

no hypodermic cells at all!



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Cercis Palmeri 5 angled, deep wood 5 inches
high $1\frac{3}{4}$ diam., bunches of very short black spines
with bulbous base 6-8 lines apart.
why not *Schottii*? only 3-4' high

Cercis Pecten aboriginum 10 inch high
2 inches diam. 5 angled. large areoles,
 $\frac{1}{2}$ inch distant, 2 to diam. 1-3 cent.
stouter and about 10 radial spines
some central spine 1 inch long. Bunches
on very slight tubercle

Cercis Thunbergii 6 inch high 12 angled
dark spines in dark wood,
Abies bracteata 50⁶⁰ feet $1\frac{1}{2}$ diam.
in deep Canon

Juniperus pachyphloea corky much like
pseudotsuga bark much cracked
like checkerboard - wood
very hard & durable, the only
wood for cabinet work a few trees

Cupressus from *Grandis*
smooth mahogany brown bark
scales like *Platanus* - wood
rots very fast

1971 *Cupressus Hartwegii* small cones &
squarose growth (Goveaiana?)



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"ⁿAlbus Fraxi"ⁿ Hummells Gard Oct 11¹⁶
yellowish leaves near Boston

7-8 series of stomata - each
band below, a few stomata in
middle groove above

2, *Albus Fraxi* *ibid* - fresh green
6-8 series of stomata below
in each band - 1-4 series
in middle above

Both prove to be *A. balsamea*
by ^{microscopic} examination of the leaves
and its hypoderm cells

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1 Feb
Abies balsamea
with the ducts of
a grandis!

Mont Winkler
Hort. ~~Winkler~~ Berg
Hort. Berlin

LONG ISLAND



GOTTFRIED HOSPITAL,

BROOKLYN, N. Y.

FALL AND WINTER TERM.



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In addition to daily recitations in the elementary branches of Medicine and Surgery, the class will be divided into sections for practical training in the

HOSPITAL WARDS.

Instructions will be given by the members of the Hospital Staff, who are on duty in the several departments of Medicine, Surgery and Obstetrics.

Ample facilities will be afforded for dissection, theoretical



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20th

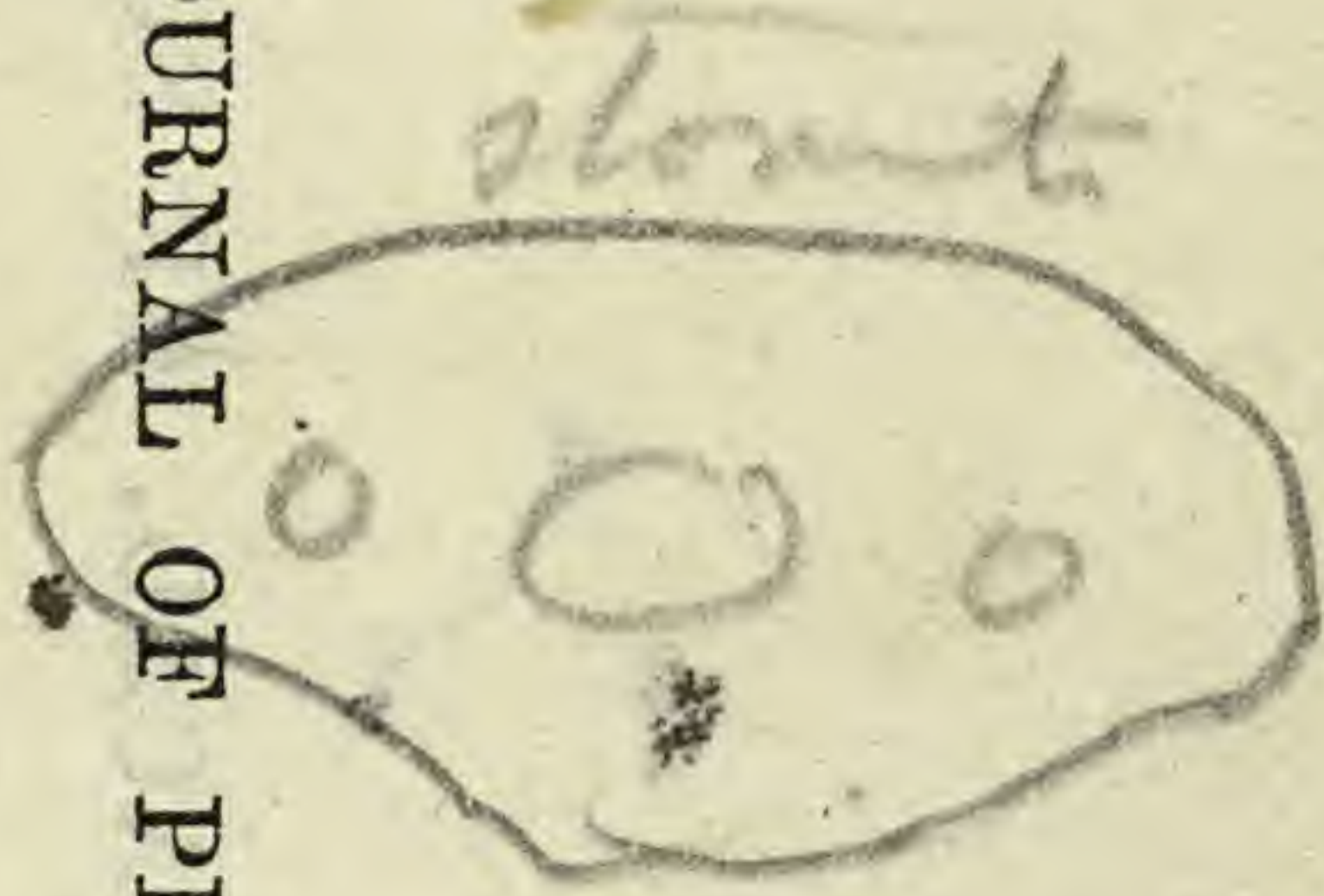
Abies balsamea

only thin leaves (on vigorous trees?) where the thickness is $\frac{1}{6}$ or less than the breadth have

ducts close to lower margin
no or few stom

JOURNAL OF PROCEEDINGS.

161

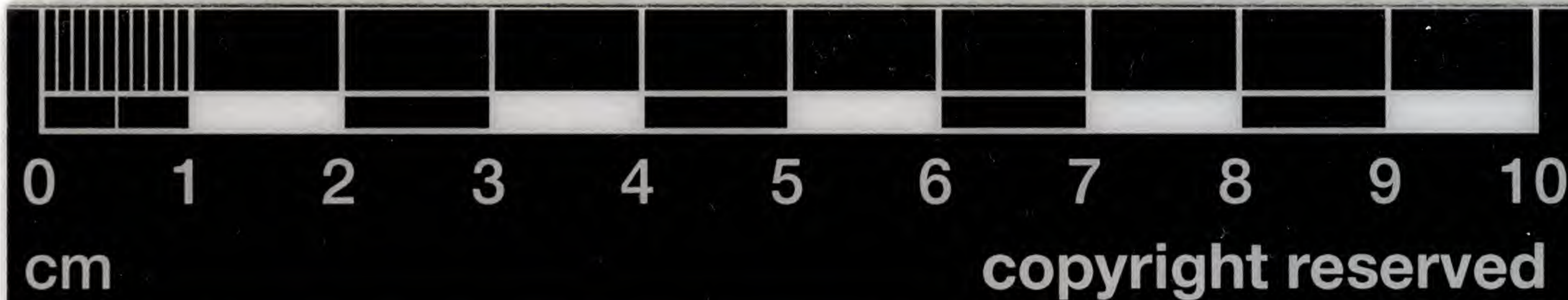


bands of
Stomata
convex
4-8 lines
(about 6)

reins zur Beförderung des Gartenbaues, 1860, Nos. 1-52—1861, Nos. 1-6, Berlin, from the Society; Atti della Società Ital. di Scienze Nat., Milano, Vol. II., Fasc. 2, 1860, from the Society; Atti dell I. R. Istituto Veneto, T. V., Ser. iii., Disp. 10—T. VI., Ser. iii., Disp. 1-3, 1860-1, from the Society; Visir-und Recheninstrumente von Ernst Sedlacek, Wien, 1856, —Rechenschieber, von E. Sedlacek, Wien, 1856, —Kompendium der ebenen und sphärischen Trigonometrie von E. Sedlacek, Wien, 1856, from Mr. Senoner; L'Ortolano, Giornale Popolare d'Orticoltura, Trieste, Anno I. 1-12, III. 1-9, 1859-60, —Allocuzione da Prof. Adolfo Stopice, Trieste, 1860, from the Society; Fr. Ambrosii Flora Tiroliae Australis, Vol. II., Pt. 4, from the Author; Verhandl. des Naturh. Vereins, Bonn, Jahrg. XVII., 1-2, 1860, from the Society; Sitzungs. der K. K. Akad. der Wissenschaften, Wien, Band XLII., No. 22-28, 1860, from the Society; Nachrichten von der Georg-Augusts-Univ. u. der K. Gesellsch. der Wissensch., Göttingen, 1860, No. 1-29, from the Society; Bull. de la Société Linnéenne de Normandie, Vol. V., 1859-60, Caen, 1861, from the Society; Mém. de l'Acad. Imperiale de Metz, Ann. XLI., 1859-60, from the Academy; Jahrbücher des Vereins für Naturk. in Nassau, XIV. Heft, Wiesbaden, 1859, from the Society; Dr. J. C. Ed. Hoser's Rückblicke, Prag, 1848, von Dr. Weitenweber, —Sitzungs. der K. böhm. Gesellsch. der Wissenschaften, Prag, 1859, Juli-Dec.—1860, Jan.-Juni, from the Society; I. Bericht des Offenbacher Vereins für Naturk., 1860, from the Society; Würzburger Medicin. Zeitschrift, II. Band, 1-2 Heft, 1861, from the Society; Der Zoologische Garten, von Dr. D. F. Weinland, Jahrg. II., No. 1-6, 1860-61, from the Editor; XX. Bericht über das Museum Francisco-Carolinum, Linz, 1860, from the Institution; Monatsb. der K. Preuss. Akad. der Wissenschaften, 1860, Berlin, —General Register, 1836-58, Berlin 1860, from the Academy; Gelehrte Anzeigen, Vol. 49 & 50, —Sitzungs. der K. bayer. Akad. der Wissenschaften, 1860, Heft 1-3, München, —Verzeichniss der Mitglieder, 1860, —Bedeutung der Sanskritstudien, von Dr. Wilh. Christ, 1860, —Denkrede auf. Alex. von Humboldt, von C. F. P. von Martius, 1860, —Grenzen und Urenzgebiete der physikalischen Forschung, von Dr. C. Harless, 1860, from the Royal Academy; Proc. Acad. Nat. Sciences, Philad., May, 1861, from the Academy; 43d Ann. Rep. of the Trustees of

short pointed leaves of fertile branchlets
convex above and covered with stomata

no hypodermis stomata above, few
cells on side or keel



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Dr. Koch presented specimens of quartz and of the silicious conglomerate from Madison County mentioned in Dr. Highland's letter.

Dr. Engelmann stated that the mean temperature of July (77.°5) had been lower than the usual mean of that month, and that the fall of rain during the same month (2.04 inches) was about one-half less than usual.

Dr. Wislizenus stated that the mean of atmospheric electricity of July had been 3.5° less than that of the month previous, and that the amount had been gradually decreasing since winter.

—
August 19, 1861.

The President, Dr. ENGELMANN, in the chair.

Six members present.

A letter was read from A. F. Bandelier, Jr., Highland, Ill., Aug. 1, 1861, communicating meteorological observations at Highland.

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June 1863

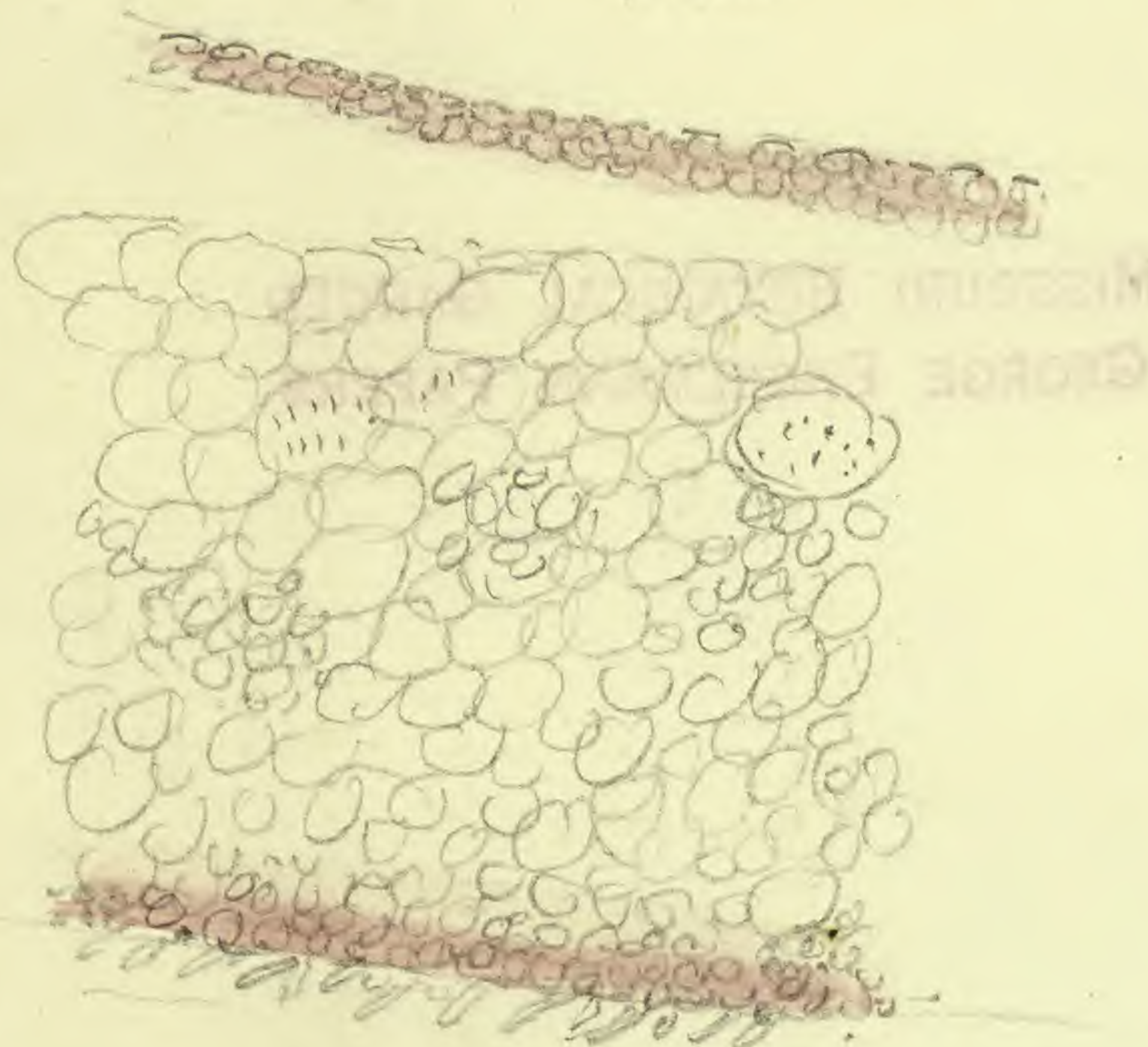
Abies balsamea
young cone H. B. Missour, June 5th 1863

coloured interior
epidermis which
becomes detached
forming the wing of
seed.

Sect. of scale
of Cone
young

coloured exterior
epidermoidal cells
with pubescence

x60



x60



wing of seed
with elongated cells

same cells
more magnified



x280



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over

Abies Balsamea

21 Dec 77

Massachusetts Gray	scales		seeds	
	wide	high	long	wing wide
	15 ^{mm}	9 ^{mm}	5 ^{mm}	8 5/2 ^{mm}
B. glabra Detroit (cult)	10-13	10-11	5	8 5
2. 1871	12	8	5	7 6
Shaw's Garden 1863	15-16	11	6	9 7-8
Gillman Lake Superior	13-15	9-10	5	6-7 5-6

mean

15 x 10

5

8 x 6



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Geo. B. Krese
 RUGGLES & PHARMACIST
 NEAR 3005 OLIVE ST.
 GARRISON AVE.
 ST. LOUIS, MO.

over
 5 sp. Proportion of scale (12-15) 14! (8-11) 10 = 7 x 5

seed (5-6) 5 mm long
 wing (7-9) 8 mm long = $\frac{4}{3}$
 (5-8) 6 mm wide

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A balsamea

No!

Oct 14 1875

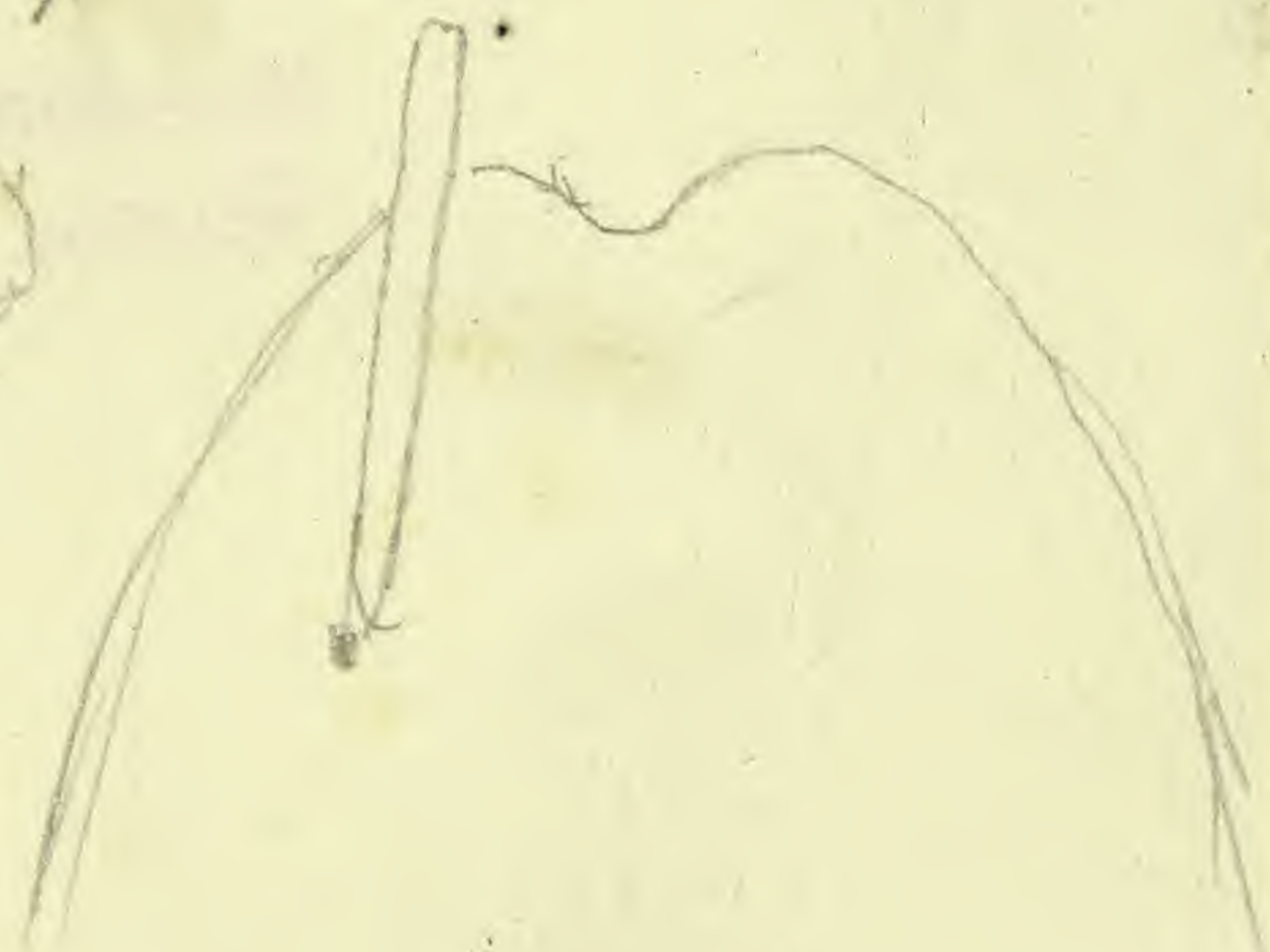
Hort Heidelberg Castle 1827

very few stomata in groove near tip



9-10 stomata lines in each band

interrupted hypoderm on upper surface
sandy any on lower
cells



= *Berlin plant*



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Abies balsamea on Lake Superior, H. G. Allen
70' high, 1' diameter, annual rings 130
trunk up to lowest branches 3.5 feet

Cones only in top of tree.

The severe winter, following long
droughts, destroyed many firs entirely
others were killed in the top or half upper
part

012
1-4.65



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"A. balsamea"

No! mth. 2 Oct 2 1875

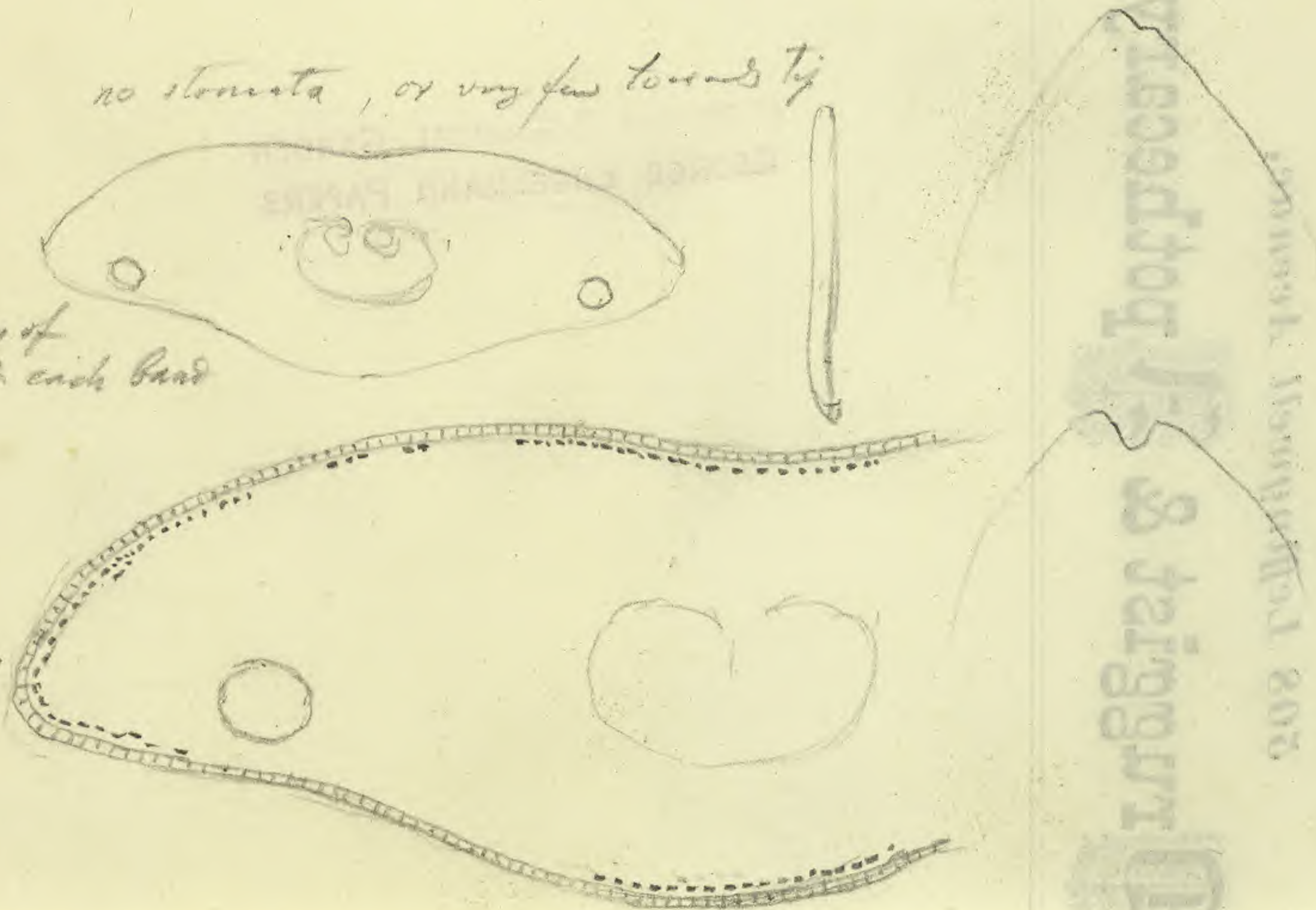
H. Bot. Berlin 1869

no stomata, or very few towards tip

6-8 lines of
stomata in each band

x60

Jan 27 '76



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Abies balsamea

Dec 1863

H.B. Cambridge

Dec 1863

deflora



rare

differs from leaves of Maine - specimens
arments same as above



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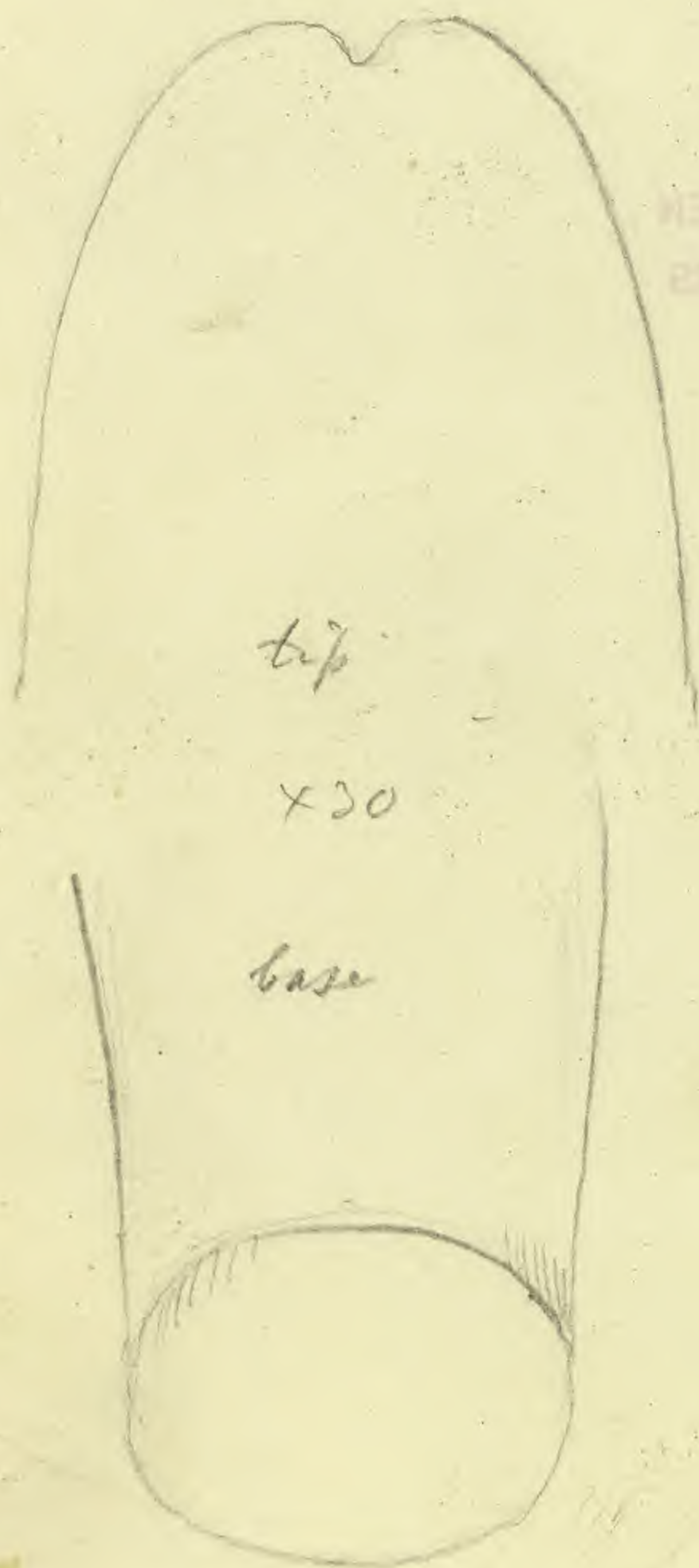


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Abies balsamea

April 13 1871

Hort. Col. Missouri Apr. 12



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Leitch & Corlies

DRUGGISTS

South West
Corner Fifth
and Market
Streets

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folia emarginata
supra & lobata
nec (fol. perissistina)
stomatosa

3 folia emarginata
supra sulcata
pura versus apicem
stomatosa

- 17 Hb Berlin (Dear meadows, Porter)
18 Heidelberg
19 White Mts, G.E. (Luc) Hudsoni Callander
20 Hudsoni Callander
14 Hb Berlin 1862
15 Fossii Hb Berlin
16 Lake Superior? D. J. L.

1 folia acuta s. obtusa
nec vel minute emarginata
supra plana vel convexa
stomatosa

- 1 Westchester, Hooper Call 1872
2 White Mts, Oakes (James)
3 Cambridge Call, Gray 1863
4 Hb Berlin 1863 - 1865, 1872
5 Detroit - call D. J. L. 1863
6 Fossii, Manitowish, Lapham
7 Mansfield Vermont Hb Gray

2, pl obtusa s. vix emarginata
supra plana vel rare exaristata
+ - stomatosa
(little signification - vel - linear s. d. n.)

- 8 Chardford Pa Cult. Canby
9 Cambridge call Gray 1863
10 Mt Washington, G.E. (top)
11 Brunswick Maine, Chaboune
12 Manitowish Island G.E. vix stomat.

These marked, are in fruit

bracts very short emarginate

- 4 Hb Berlin
Munich's garden
Hb Berlin

a little larger, circular
awn included

- J. Detroit
16 Lake Superior
Cambridge 1853

oval, bract exserted
and almost round

1. Westchester
3 Cambridge
2 White Mts
7 Vermont
Cambridge no date

Abies balsamea

Oct. 1875

all sp. with parenchymatous residua
except

- Hort Heidelberg, Hort Berlin, Base of Mt Washington & gray leaf
Gillies 1873

A. Fraseri! Mansfield Vt
July 1860 - Hb Gray

Adolphus Meyer & Co.
St. Louis.

St. Louis July 5th
1872

My dear friend Doctor!

Enclosed are some
various papers for you
on the Wood. I hope some of
them are of interest to you.

Very truly
yours

Adolph Meyer

Adolph Meyer

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